On the Subject of Uncanny Maze

You see your super gaming factory demolished by a Doomsday Button.

On this module is an image of Mr. Incredible becoming uncanny alongside four arrows and three red buttons. If the module is white instead of dark red, the buttons are red instead of white, there is no APPEND button, and Mr. Incredible is instead becoming canny, you are looking at

<u>Canny Maze</u>. These images (tiles) are numbered 0-9 in order of the table below, and are randomly distributed across a square grid (maze) with dimensions ranging from 4 to 6.

NOTE: because the images are disturbing, there is a setting in the module to blur all of the images past a given number (0 in order to blur all). Any number outside the ranges of 0-9 will leave all images unblurred. There is also a slider below that controls the blurring of the images in this manual.

Blurring from image 2 onward.

Pressing the center of the module reveals the entire maze, and pressing again returns to the view of the current position. In the view of the entire maze, the current position is surrounded by a blue border and the goal by a red border. Additionally, there will be text in the top left corner giving letter-number coordinates of the current position and the goal. Note that backtracking is **not** automatically allowed.

The button on the bottom right completely resets all progress, but does not regenerate the maze. The button on the bottom left turns all of the images into numbers when viewing the entire maze to make communication easier. As with the maze view, the blue number represents the current position and the red number represents the goal.

The type of maze that is currently active changes depending on the current tile. Rather than simply navigating to the goal, the defuser must submit a sequence of tiles by pressing the APPEND button on each appropriate tile, then press APPEND on the goal. The sequence of tiles is determined by the size of the maze. If the submitted sequence is incorrect when submitting on the goal, the maze will reset, but will *not* regenerate.





In the case that the maze takes more than ten seconds to generate (starting from the bomb creation), the module will activate a failsafe in which it can be automatically solved by pressing the NUMBERS, RESET or APPEND button.

Maze Types

Goal Maze: Whichever surrounding tiles are closest and furthest in value to that of the goal tile are okay to navigate to.

Center Maze: If the maze is 5×5, take the center tile; if not; take the 4 center tiles and add them, then modulo 10. Whichever surrounding tiles are closest and furthest in value are okay to navigate to.

Total Maze: Sum up the entirety of the maze and modulo 10. Whichever surrounding tiles are closest and furthest in value to this number are okay to navigate to.

Corners Maze: Sum the values of the corners and modulo 10.

Border Maze: Individually sum up the leftmost column, rightmost column, highest row and lowest row, but do not modulo 10. Whichever tiles are in the direction of the largest and smallest of these numbers is okay to navigate to. In the case that the current position is in the row/column with the largest/smallest number, the opposite direction can be navigated to. Keep Talking and Nobody Explodes Mod

Maze Sizes

The size of the maze determines how the defuser must gather tiles.

<u>4×4</u>

For every quadrant of the module, concatenate each digit to get a 4-digit number, then convert each number to its 14-bit binary equivalent, with leading zeros. For each sequence of bits, if the goal is in its quadrant, prepend a 1; if not, prepend a 0. Repeat this with the starting position, placing its bit to the left of the goal position's bit. Concatenate each sequence of bits in reading order to get a 64-bit unsigned long. For each digit in the unsigned long, starting from the most significant digit, find the tile with the smallest Manhattan distance (difference in column + difference in row) to the last appended tile that has this digit (at the start, use the starting tile as a point of reference but do **not** press APPEND on the starting tile), then press APPEND while on that tile. If more than one tile has the same number and Manhattan distance, the first one in reading order is valid. Do not press APPEND on the same tile twice in a row.

<u>5×5</u>

Create a playfair cipher table with the tiles; the first 0 in reading order is A, the second is B, and so on. Once every 0 has been assigned a letter, assign the next letters to the remaining ls, then the remaining 2s, etc. Z is excluded. Encrypt the word associated with the goal tile using the table. However, the table used for submission is different; map out letters using the starting tile's order (LRUD means left to right, from the uppermost row to the lowermost row; DULR means down to up, from the leftmost column to the rightmost column). Press APPEND on the tile of each letter of the encrypted word.

<u>6×6</u>

Assign base-36 digits to each of the tiles (the first 0 in reading order is 0, the second is A, the third is B, etc.; the first 1 in reading order is 1, the second is the next letter, etc.). Multiply the numbers in each quadrant, ignoring 0, and add them all together. Convert this number to base-36 (0-9, A-Z), and submit the resulting sequence by pressing APPEND while on the tile of each digit.

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then LRUD every other row)

Uncanny Maze